SOLUTIA. Solutions for a better life.

June 10, 2005

Mr. Nabil S. Fayoumi
U. S. EPA - Region 5
77 West Jackson Boulevard (SR-6J)
Chicago, Illinois 60604-3590

Re: Sauget Area 2 Site – October 3, 2002 Unilateral Administrative Order (UAO) Groundwater Operable Unit
Monthly Report; May 1 - May 31, 2005 Reporting Period

Dear Nabil:

Attached is the Monthly Report for the Sauget Area 2 Site October 3, 2002 Unilateral Administrative Order (UAO) - Groundwater Operable Unit. This submittal is in fulfillment of the monthly reporting requirements of the UAO, Section XII, paragraph 62, Progress Reports. This report is for the period May 1 – May 31, 2005.

Sincerely,

Steven D. Smith
Project Coordinator

cc: Ken Bardo, - U. S. EPA
Mayor Sauget - Sauget, IL
Sandra Bron – IEPA
Mike Coffey - USFWS
Village of Sauget – c/o P. H. Weis & Associates (Attn: Brian Nelson)
Mayor Frank Bergman – Cahokia
L. Glen Kurowski - Monsanto
Cathleen Bumb – Solutia
Linda Tape - Husch & Eppenberger
Richard Williams – Solutia

Sauget Area 2 Site - Sauget, Illinois

October 3, 2002 UAO – Groundwater Operable Unit

Status Report

Date of Report: June 10, 2005
Period Covered: May 1 - May 31, 2005

Agency Actions / Communications

In an e-mail message dated June 19, 2003, U. S. EPA requested the submission of revised versions of the Focused Feasibility Study, the Remedial Design Work Plan, and the Pre-Final (95%) Remedial Design. The revisions were required to allow the use of a slurry wall rather than jet grouting for construction of the barrier wall. The revised documents were submitted on July 3, 2003. The ESD was issued by US EPA on July 30, 2003. The Final Design Submittals were approved by EPA on October 16, 2003.

Work Performed During the Reporting Period

Site Restoration

- By the end of May, all of the grading had been completed at the site and the earthworks contractor had demobilized.
- The contractor hired to construct the cover on the temporary stockpile mobilized to the site on May 20th and began construction of the cover on May 23rd. By the end of the month, the contractor had deployed and welded approximately 70 percent of the HDPE geomembrane over the stockpile and was waiting on additional material to complete the cover installation. It is anticipated that this will be done by the middle of June.
- Since all of the spoil had been covered with clean material by the end of the month, arrangements were being made to decommission the backup stormwater treatment system.
- The results of chemical analyses on a soil sample from a proposed offsite clay borrow source were submitted to CH2M Hill on May 25th. CH2M concurred with the use of the material in a e-mail dated May 31st and it will be hauled from this pit to be used in the leveling and soil cover components of the cover on the temporary stockpile. The results from a third sample of the topsoil used on the

site were also submitted to CH2M Hill at the same time and those results were also accepted on May 31st. This represents the last of three topsoil samples requested by the Agency.

Groundwater Treatment

- For the entire month, the system was operated to maintain a zero or inward gradient across the barrier wall. With the exception of the week between May 6th and May 13th, this condition was maintained. During that week, the river level was low and the pumps were operating at maximum capacity. The water level in the inner member of piezometer pair PZ-2 was higher than that in the outer member during the week. However, an inward gradient was maintained in both the northernmost and southernmost pairs during the entire month, indicating that groundwater control was exercised at all times during the month.
- A malfunction occurred in both of the piezometer sensors in piezometer pair PZ-3 during the period of May 6th to May 16th. The problem was repaired and the piezometers provided accurate readings for the rest of the month.
- A report summarizing the results of the 90-day Interim Operating Period for the GMCS was submitted to the Agency on April 1st. The report also contained recommendations for changes to the criteria used to control the system and recommended that the effectiveness of these changes should be evaluated during a second 90-day Interim Operating Period. The recommended basis for operating the system was to remove the same volume of groundwater that flowed into the slurry wall containment.

  A meeting was held with the Agencies and CH2M Hill on April 20th to discuss the report and conclusions. The EPA agreed with the recommendations in principle, but requested that the locations of the piezometers used to compute the groundwater inflow to the system be moved upgradient of the barrier wall. A suggested piezometer layout was submitted to the Agency on April 22nd. The layout includes four piezometers located immediately upgradient of the eastern boundary of the Site R landfill and four other piezometers located upgradient of these, approximately along the eastern edge of Site Q Dogleg. The layout was approved on April 28th and piezometer installation began on May 5th. Installation of the 8 new piezometers was completed on May 31st and development began that same day.
- Analyses of the step testing data to derive hydraulic conductivity values for the aquifer materials have proven to be very difficult using conventional drawdown analyses. The analyses are complicated by the presence of the slurry wall. Consequently, numerical modeling will have to be used to accomplish the analyses, using MODFLOW. That modeling began during the reporting period and will be completed in June.
- The Pre-Final inspection required by the UAO is scheduled for June 21st.
- Water level and pumping data for the month of May are attached.

Schedule

It is currently estimated that the project will be completed by the middle of June, assuming no significant weather or material delays.

Submittals During Reporting Period

The only submittals to the Agency during the reporting period were the results of the analyses of the clay borrow and topsoil samples.

Work Scheduled for Next Reporting Period

- Complete hydraulic conductivity analyses.
- Complete development and instrumentation of the additional 8 piezometers and reprogram the system to remove the same volume of water that enters the barrier wall containment, based on gradients measured between the four upgradient and four downgradient newly installed piezometers.
- Continue pumping and treating groundwater using the new control program.
- Complete installation of the cover over the temporary spoil stockpile.
- Decommission the backup stormwater system and remove the four granular activated carbon columns from the site.
- Carry out the Pre-Final inspection.

PUMPING DATA

SITE R GMCS

Average Daily Groundwater Levels - May 2005

Date/Time		PUMPING RATE					GROUNDWATER LEVEL (OUTSIDE) COMPARED TO GROUNDWATER LEVEL (INSIDE)											
		Total Q	EW-1 Q	EW-2 Q	EW-3 Q	SWL	PZ-1_OUTSIDE	PZ-1_INSIDE	Delta	PZ-2_OUTSIDE	PZ-2_INSIDE	Delta	PZ-3_OUTSIDE	PZ-3_INSIDE	Delta	PZ-4_OUTSIDE	PZ-4_INSIDE	Delta
5/1/05	Daily Average	809.95	330.28	330.73	148.94	393.67	393.01	390.10	-2.91	392.33	391.77	-0.55	392.40	391.45	-0.95	392.87	392.07	-0.80
5/2/05	Daily Average	983.2	401.2	401.2	180.8	393.0	392.6	389.5	-3.1	391.7	391.2	-0.5	391.7	390.9	-0.8	392.4	391.7	-0.8
5/3/05	Daily Average	1243.93	503.60	502.39	237.94	391.85	391.86	388.43	-3.43	390.63	390.29	-0.33	390.74	390.05	-0.70	391.72	390.95	-0.77
5/4/05	Daily Average	1229.8	500.3	500.4	229.1	391.6	391.6	388.1	-3.5	390.4	390.0	-0.3	390.5	389.8	-0.7	391.5	390.7	-0.7
5/5/05	Daily Average	1391.2	557.0	559.3	274.9	391.0	391.2	387.6	-3.6	389.8	389.6	-0.2	390.0	389.3	-0.6	391.1	390.3	-0.8
5/6/05	Daily Average	1259.7	490.9	489.9	278.8	389.8	390.5	387.2	-3.4	388.7	389.1	0.4	Error	Error	Error	390.4	389.8	-0.6
5/7/05	Daily Average	1919.90	749.93	749.36	420.61	388.22	389.50	385.68	-3.83	387.17	387.86	0.69	Error	Error	Error	389.39	388.88	-0.51
5/8/05	Daily Average	1986.46	749.95	749.05	487.45	386.88	388.64	385.19	-3.45	385.90	387.36	1.46	Error	Error	Error	388.49	387.91	-0.58
5/9/05	Daily Average	2070.78	749.95	746.22	574.60	386.36	388.20	384.79	-3.41	385.36	386.96	1.59	Error	Error	Error	388.00	387.23	-0.77
5/10/05	Daily Average	2120.50	749.98	742.69	627.84	386.26	387.99	384.38	-3.62	385.25	386.51	1.26	Error	Error	Error	387.78	386.53	-1.25
5/11/05	Daily Average	2116.08	749.99	740.51	625.57	386.02	387.69	384.03	-3.67	384.98	386.16	1.18	Error	Error	Error	387.47	386.13	-1.34
5/12/05	Daily Average	2091.79	749.90	741.28	600.61	386.14	387.67	383.79	-3.89	385.09	385.94	0.85	Error	Error	Error	387.44	386.07	-1.37
5/13/05	Daily Average	2084.77	749.96	739.58	595.23	385.98	387.46	383.60	-3.86	384.82	385.75	0.94	Error	Error	Error	387.22	385.96	-1.26
5/14/05	Daily Average	1635.50	607.20	642.68	385.63	387.97	388.44	384.43	-4.02	386.67	386.45	-0.21	Error	Error	Error	388.17	386.91	-1.26
5/15/05	Daily Average	1075.65	416.27	444.20	215.19	389.67	389.37	386.03	-3.34	388.32	387.89	-0.44	Error	Error	Error	389.17	388.27	-0.90
5/16/05	Daily Average	618.98	232.70	260.78	125.51	391.55	390.49	387.49	-3.00	389.99	389.16	-0.83	Error	Error	Error	390.19	389.22	-0.97
5/17/05	Daily Average	12.27	6.12	5.65	0.50	396.42	393.36	389.93	-3.42	394.59	391.35	-3.24	394.36	391.02	-3.34	393.00	391.12	-1.88
5/18/05	Daily Average	5.03	2.75	2.33	-0.05	396.36	393.68	390.47	-3.22	394.67	391.85	-2.82	394.51	391.53	-2.98	393.43	391.65	-1.77
5/19/05	Daily Average	3.38	1.51	1.33	0.54	395.18	393.28	390.84	-2.44	393.67	392.25	-1.43	393.62	391.76	-1.86	393.10	391.93	-1.16
5/20/05	Daily Average	185.98	74.09	72.90	39.00	394.34	392.82	390.58	-2.24	392.85	392.02	-0.84	392.84	387.69	-5.13	392.64	391.75	-0.89
5/21/05	Daily Average	371.95	147.65	154.97	69.33	393.90	392.60	390.15	-2.45	392.40	391.60	-0.80	392.42	389.36	-3.06	392.40	391.59	-0.81
5/22/05	Daily Average	448.99	182.57	182.33	84.10	393.76	392.54	389.98	-2.56	392.24	391.49	-0.75	392.29	388.46	-3.83	392.36	391.49	-0.87
5/23/05	Daily Average	522.58	219.49	202.96	100.12	393.57	392.51	389.85	-2.66	392.14	391.46	-0.68	392.18	390.90	-1.23	392.33	391.47	-0.86
5/24/05	Daily Average	739.65	305.00	304.89	129.75	392.82	392.04	389.10	-2.94	391.39	390.79	-0.60	391.40	390.37	-0.95	391.87	391.06	-0.81
5/25/05	Daily Average	824.60	339.67	339.77	145.16	392.44	391.73	388.64	-3.09	390.97	390.43	-0.55	390.80	390.12	-0.67	391.58	390.79	-0.80
5/26/05	Daily Average	618.79	253.26	253.33	112.20	393.13	392.07	389.27	-2.80	391.57	390.91	-0.66	391.21	390.49	-0.71	391.91	391.06	-0.85
5/27/05	Daily Average	732.34	299.64	299.64	133.07	392.85	392.01	389.11	-2.90	391.38	390.78	-0.60	390.88	390.16	-0.72	391.84	391.02	-0.82
5/28/05	Daily Average	959.93	395.33	395.38	169.22	391.99	391.49	388.30	-3.20	390.58	390.10	-0.48	389.97	389.78	-0.19	391.34	390.57	-0.77
5/29/05	Daily Average	1089.90	449.04	449.11	191.75	391.32	391.04	387.67	-3.37	389.96	389.57	-0.40	389.46	389.26	-0.19	390.88	390.15	-0.73
5/30/05	Daily Average	1116.50	459.78	459.38	197.34	391.03	390.79	387.36	-3.43	389.67	389.29	-0.38	389.24	388.99	-0.25	390.62	389.89	-0.73
5/31/05	Daily Average	1195.68	494.06	494.13	207.49	390.63	390.55	387.03	-3.52	389.32	388.99	-0.34	388.82	388.56	-0.26	390.41	389.67	-0.74